

DRAGON



USER

The independent Dragon magazine

September 1985

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Editorial

THE leading news this month is that another Dragon show will be held this autumn, in Walsley super-Mare. The Colour Computer Convention will be organised by Dragonites Services held on a Sunday so that users who normally work on a Saturday will have a chance to attend. See News desk for further details. However, Dragon User has now heard from two outside sources that the ramouse at an all-Dragon show to be organised by New Era Publications was frustrated on hope rather than agreement and will not come to pass.

After the latest show in the Dragon's past in recent letters pages I would like to hear from anyone who has interesting material about the Dragon, or a good collection of old Dragon just a good memory.

Meanwhile, thanks to the Arcade Associates editors, the column has disappeared out this month for reasons of space but should be back in the next issue.

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How to submit articles

The quality of the material we can publish in Dragon User each month will be very good and will depend on the quality of the contributions you can make with your Dragon. The Dragon computer has been chosen to be the medium with a powerful version of Basic, but with very poor documentation.

Articles which are submitted to Dragon User for publication should not be more than 5000 words long. All submissions should be typed. Please leave wide margins and a double space between each line. Programs should whenever possible be prepared printed on plain white paper and be accompanied by a tape of the program.

We cannot guarantee to return every submitted article or program, so please keep a copy if you've not had your program returned you must include a stampable address envelope.

Letters

This is your chance to air your views — send your tips, compliments and complaints to Letters, Page, Oregon User, 31 Alameda Road, Houston, MO 64501-0419

Pamcalls

THANK you for bringing me all the amazing news that Oregon User is to continue under new management. My own news is similar but different.

Needing to make a contribution to the family budget, Pamcalls Ltd. was formed well before the Oregon came on the scene. Although I have been involved with the Oregon (my first and still best loved home computer) since 1982, primarily because I could have the imagination for creating computer games the Oregon has remained a private computer interest, though also the one that has given me the greatest enjoyment. Earnings over the last three years to share have been sustained by contracts to convert games to a French 8008 for a software house. Also, that market seems to be closing down, so I must seek new pastures. Although for some time I have been my best seller (and I am making 100 copies not multiple hundreds) it is obvious that the Oregon will not be a viable financial proposition for me. A software publisher, having seen Northern Gate at the London show gave me a 16-bit machine to develop software on. To date I have been allowing myself to be drawn back to my much loved and familiar Oregon rather than concentrating on the new beast. However, your interesting article led the way for me down to compare Perceptron forms me to be far more and say sorry. I will manage my future enquiries for my 16-bit technology. I am sure that I can get the machine code source more thoroughly, and that I haven't developed for the Oregon all the software that I would like to and that I haven't seen to an Open Store.

As for the future of the Oregon, it is fortunate a very good computer there are some software developers regarding the droppings. Oregon User will continue and I hope it gives a better feel that if they get their hands in their pockets every now and then. Oregon is comfortable and I don't know that will be able to easily divorce myself from it. In particular, I will sign off by

Every month we will be sending out a game or two, courtesy of our suppliers, to the reader's who send the most interesting or entertaining letters. So send us your letters and your opinions, send us yours and we'll send you a game or two. Send us your best Oregon stories. What if you think we're **mad** readers?



Easy is best

AND some have gone here three times there.

I was surprised to find my name in print in Gordon Lee's column in July. I made the right one, shape an eye for Page 5 and as a concerned reader you would like to have my name in the Court Circular, so that only leaves Oregon User as a remaining target?

However, I am not willing to give my personal details to you in order to give you a more advice about a useful textbook. It is strange to receive a Specialised Easy Programming book he recommends at about the same time as several late and generally very unhelpful and unhelpful and well written book. I now agree with his emphasis on knowing thoroughly the action of each command. I

I haven't got all the details of the ad writing, but I believe it is a good to receive enquiries. There should be an advertisement for the issue with the title of their new games. The very same advert seemed missed last month's issue because of a supposed dispute in some North London printing offices, so

thinking my customers for their support. I feel even greater thanks are due to all Oregon User readers who have trouble to write to me about every thing and everything over the years. I really special thanks to Oregon User staff. I had computer programming not been such a lucrative career, I would have switched to journalism in my youth — thank you for allowing me to have my cake and eat it. Long live the Oregon!

Phil O'Leary
27 Worcester Lane
Weston Green, High Wycombe, Bucks HP12 0AD

was tempted to stop the first baby chapters but having decided to work through them found that even the complex programs had been carefully thought out to teach a lesson and that most of my previous difficulties were because I had only partly understood certain functions.

However, Gordon Lee's note read of endorsement from me. A reasonable reason for writing is to let readers know that the book is available from R & AJ Press, Kings Hill Court, St. Brice Way, Mid. Glouc. CP10 0BT. I think that the second book is too good to have been left in the past to continue. However, they will no doubt be glad that anyone interested has a copy either at a reasonable price or a good price at a book.

Jim Finlay, Horford

It is good to see a plug. I am short of ready-to-publish information concerning the government's forced moves, holidays and other chaos. I have a large pocket will be back to normal next month.

And thank you for everything, Pam. I hope business continues to flourish.

But, said I to be everywhere of my acquaintance, including what Paul Grady said in last month's Ore, is it true that people will buy a new computer just because the colour is better and the memory is bigger, whether they need it or not? If I am not quite so naive as I sound, but, not being of the school of thought myself, I wanted a second opinion? Oh yes, said he there are good reasons as well, of course, but there are good reasons, but

some you find that people don't buy quality, they buy appearances.

How we have experienced dedicated software writer for long, though looking at the Oregon error by the next print are a well defined result of all those people who bought 16-bit computers because they couldn't work out what to do with their first one. Being as I am a position to observe a large body of generally devoted 16-bit users fairly closely, I can report that, despite the best advice from many of them, still don't know which way to go. I had the thing thought in the office pay-off of the

Maths on the run

AN answer perhaps only part of the Paul Grady's query (Oreg on the 14/7 July 1983) after more putting a mathematical function in a running program may be in the way part of a program for changing pages which I submitted by OLU some years ago but also? It was rejected. The relevant part of the larger program is attached.

The function entered as a string (F1) which is analysed for any characters operators etc which are then processed and joined (generated by the letters for DEF F1(X)) also a reserved program line (R0) throughout but in its final use after joining the function made operable by the colon of the token for REM. The position of the reserved line is variable (ST. A subroutine (S0) to take in the whole reserved line to a REM statement is included otherwise only time a new function is entered the program would have to be reloaded. More that the reserved line must be at least 70 characters longer than any function which it is to be entered to allow for DEF etc.

PG Hollister
8 Kings Cross
Leamington
East Lothian
Scotland EH12 0DW

PG The 700 mentioned miles 430 is the line in the main program when the entered function is used.

Inputting a maths function to a running program:

```

26 GETLN
27 READSQUANTUM TO TRIGONE FACTOR AND POINT TO
PROGRAM LOGFILE
28 FN = "SIN(COS(SIN(COS(SIN(P)))))"
29 FOR I=1 TO 7,STEP 1:1: GET
30 C=C+I**PI/200 I=1 TO 7,STEP 1:1: GET
31 DATA 120,135,150,165,180,195,210
32 DATA 195,210,225,240,255,270
33 DATA 170,22,179.25,49.55,41.263
34 FOR J=1 TO 7:STEP 1:1: PRINT C, J, RCT, I, RCT, RCTORE
35 PRINT I=1 TO LOGFILE
36 IF LOGFILE THEN TRM$(TRM$(TRM$(C, I, RCT), J, RCT), I), RCT), I, RCT)
37 PRINT I, RCT, I, RCT, I, RCT)
38 IF NOT THEN C=C+PI/200
39 TRM$(TRM$(, C
40 PRINT I, RCT, I, RCT)
41 IF NOT THEN C=C+PI/200
42 PRINT I, RCT, I, RCT)
43 PRINT I, RCT, I, RCT)
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Here are the solutions to Crosswords three, four, five and six:

February

March

1 DEMONSEED
 2 GRIDRUNNER
 3 FRANKLIN STOMPS
 4 GRABBER
 5 VORTEXFACTOR
 6 WINEBOUL
 7 DEFENCE
 8 NORTHERN
 9 REFINEMENTS
 10 SPEEDRACER
 11 CAMEHUNTER
 12 TREEBOER
 13 DRAGONHIDE

1 SYZYGY
 2 MOULEMAN
 3 FREEDER
 4 HETHEITYK
 5 WASHBUCKLER
 6 ALCAIKAZ
 7 RUBYROSA
 8 THEKETTITTOGY
 9 MANLID
 10 PHANTOMSLAYER
 11 TIMEBANDIT
 12 ESCAPE
 13 COSMICRUISER

April

May

1 COPTASNATCH
 2 CASHMAN
 3 KRIEGSPIEL
 4 DODDLEBUG
 5 BARRYBURGERS
 6 BEARRIDER
 7 WINGSUMPIER
 8 OLYMPIA
 9 BUNNHOPPER
 10 DUNZINDD
 11 TONGSTONE
 12 KORTSTERNDD
 13 WIZARDRIDER

1 BURLEBUSTER
 2 MANICMINER
 3 BERSERK
 4 CHICKENRON
 5 HUNCHBACK
 6 TELEWRITER
 7 TOTALECLIPSE
 8 DUNGEONRATID
 9 DRAGONHAWK
 10 BOULDERCRASH
 11 YANGLEWOODDD
 12 NIGHTFLIGHT
 13 END

6809 Show goes to Weston-S-M

Dragonite Services are to organise a show for the Dragon and Tandy Colour computers at Weston-super-Mare Avenue on December 4th 1988.

John Penn of John Penn Data Court Software is quoted as saying that it is unlikely that the Penns could organise a LAN show above this autumn owing to the very high cost of London venues. Weston-super-Mare near Bristol is apparently regarded as access to most of the UK and is fairly local to the organisers.

All the major Dragon and Tandy suppliers will be there with software, hardware and spares. There will be special show reductions, and new software will be released at the show. There will be bargains, say Disquette Computers, Joy Rest Discount Software, Orange Software, Prolog Software, R & A Preston, MARS and Dragon Magazine have already put down their names to attend.

The Colour Computer Convention will be held at the Armita Hotel, Lower Church St, Weston-super-Mare from 10.30 to 4pm on Sunday 4th December. Entrance: £1.50 (DAP member: 95c) (DAP under 16s: 50c) (free).

Dragonite also write: "Please print our address in the supplier's catalogue in order as we had orders as a result of the 'Computer' and 'Strip' reviews but none from the 'Prestonville' and 'Underbridge' review." In future all reviews will contain the supplier's address, but for the above guests and information about the show contact Dragonite Services, 13 Party Jones Close, Walsall, Staffs WV3 3NA.

Anyone who feels that 'Computer' does not fully reflect the best version of Prolog Control should contact Dragonite.

New Era moves into software

NEW Era Publishing, a one publisher/author line (rather like Dragon) which is launching a new software label, New Era Software, is offering a discount from commitments to all listed Dragon publishers.

New Era is presently looking for software writers, offering a royalty rate of over 30%. Contact New Era at 37 Colindale Avenue, Harlow, Essex CM9 4EH.

color books (see letters, July 1988), White Magazine (Dept 80) & Hurdle Creek Press, Elmwood, Dorchester, Dorset, SA7 7L, 08877 52895.

Dragon User would welcome a contributor report from anyone who has used this service.

Extension keyboards from German source?

From David Rothery

A source has been sighted in Germany which apparently supplies a replacement keyboard with 14 keys including 10 function keys and a integral numeric keypad on the central base.

The add-on board must be ordered inside the Dragon. The code carries the date and is not permanently set and can be updated under DragonDOS for inclusion in accounting programs etc.

Thinklog's most useful function is with OS-9 where it demonstrates each file in series and will automatic daily date for text writers using 800 and Mailmerge.

A new CLOCK and a zip

pled for the floppy, so that when a 3.5" floppy is put in it reads the new clock in use. The keyboard drives are top grade along with the Dragon DOS software.

The package costs £50 plus £2 50p for the software clock by Heathrow, £10 plus £2 50p for

Dragon User has contacted the address supplied: Gertrude Schmalenbacher c/o Altmann & Genschel, Grafstrasse 2, D 8502, Bamberg, Federal Republic of Germany, for a trial and literature. Carl has had no reply at time of going to press. There is said to be a limited number of keyboards and but fitting can be arranged, but no further details are given.

Maplin Electronics still in the Dragon business

THREE hardware construction projects for the Dragon are available from Maplin Electronics: the Dragon 32 Extension (job only £3.80), the Dragon 2010000000 Interface (job only £3.95, kit £10.95) and the Dragon 32 to Port (job £2.50, kit £7.95). Construction details can be found in Maplin Project Book 10 (the Extension/Maplin Project Book

8) (the other two). The project books are 50p each.

These details are taken from the current Maplin catalogue page 294. Maplin can be contacted at PO Box 3, Poyning House, 00901, 1st St Paul Street, One (0707) Station (mail order) or Manchester Firm (night), 0442, Westcott or New Southampton and London.

Prolog for OS-9

The new product from Chris Jolly's firm, Metaphor, is a Prolog compiler for OS-9. The complete current Prolog 2 source code only 8800 assembler source which can be assembled into an executable program using a free standard OS-9 assembler.

The package's suppliers also containing the compiler, system module, documents, test and examples.

The compiler has all the standard Prolog features such as

non-deterministic search patterns, matching, backtracking, program control using cut and fail, recursion and metaprogramming. The runtime module includes a large subset of the standard Prolog predefined rules, including a large arithmetic string handling for processing and file IO.

The package is available on engineering CD-ROMs (Metaphor) or Professional Walk, Drington Road, 0474 850.

Ink and ink again

From John Smallwood

A firm called Aladdin has the ink used in print and typeset software. The ink is making costs £1 and the company will include an estimate with the return order for how much will cost to make the return in the future.

This is a helpful alternative to asking for 500,000 or 10

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 a powerful debugger. Includes a powerful
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- HW 64 3000 characters £12.95
- HW 64 4000 characters £12.95
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The short and the long of it

Program: **Wanted Plus**. Electronic Author. Supplier: **Orange Software**. The Green Star Road, Ferry-Gleny, Aberystwyth, Gwynedd NP23 5GP. Price: £129.95 (RSD)

Electronic Author has been around for some time now and so far its word processors are concerned it has had things pretty much its own way. When I found out that Orange was about to be getting out a new word processor called **Wanted Plus** I was quite keen to do a comparison. I was even more keen when I found out that Orange was about to get out **Electronic Author V2.0**. Mine follows in its footsteps. It's well balanced compared

standard ones, sandwiched between the best to be regarded as one of the best in class. I don't think I will ever be able to look at a vertical scrollbar and know (the) a more bold type of the scrollbar "it" means that bold has been cancelled (all) as I say before this being entered by many other so-called WYSIWYG systems. However, a major advantage is that no matter what typeface you use you are still stuck with 64 characters per line (although this is not true).

Regularly used lines and phrases can be stored as quick texts, which can be called using only two keys. These can be applied elsewhere, long and may contain control codes, such as new line or a changed print. They can be held as temporary files or stored in the edge of a cassette (create and store an address book, which can be called up whenever it is needed). Pressing the **BREAK** key locks a return to the main menu, whilst the **CLEAR** key acts as a control key which when followed by any other key will enter either a printer control code or a quick text. Although auto-repeat on all keys is used the specification is followed on the feature switched off using the configure option. Unfortunately holding down the **SHIFT** key forces a repeat of the character typed, with the **SHIFT** as a prefix too. For this reason it is best to use the shift keys **SHIFT + D** to save even a second in a capital. The program comes nicely set up for an Epson FX800 or similar dot-matrix printer. However, it can be reconfigured to suit whatever machine you used. Any program claiming to be WYSIWYG would have to include word-wrap and **Word** is no exception. Words are never split over two lines and unnecessary leading spaces are ignored.

Bug call

It is not a bug, or a loaded line, or die and printed in multiple of just. It's never copied to a bug, but **SAVE/DIG** routines which resulted in an error message and halted the routine if the directory was not passed before saving a program. A quick call to Orange Software soon effected a cure. Similar problems occurred when saving the same routine for the quick text. Although I managed to save the problem the correct thing is that I could not see anything wrong with the original routine. Perhaps a just did not agree with my SuperDOS.

A More **Find** routine is included for either a block of text or a screen window. However, the procedure necessary to achieve this is somewhat cumbersome and if the original is deleted it is confusing text is not covered up or if the gap. This result is a hole in the text that has to be closed

manually. The long and change string procedure is a bit to avoid it, but I subject to the same kind of error. The replacement string must be the same length or shorter. I had to struggle to understand this for a few days ago. Both these routines are of questionable usefulness and I must admit that I feel that their inclusion is little more than window dressing. No word count or page numbering is available, and it would have been nice to have the paper moved out of the printer once the screen was finished.

Despite these minor quibbles good and well presented in its bright orange folder. However, it did tend to be a bit fussy in places, especially the parts dealing with the More **Find** routine and also the saving of quick texts.

The ease of use offsets these idiosyncrasies a fair degree and with a price tag of only £129.95 it seems good value. The bugs are different matter. Graham Smith assures me that all new copies will be bug-free and will be available anyone who is perhaps grateful of a similar nature should contact Orange Software.

Electronic Author

Being an old-fashioned code-program editor, **Electronic Author** (developed only 64 with another 8K allocation) is the high resolution version. There is still space for over 170 of text even when running on a Dragon 16. It is supported with a program called **Only** which is used to set up the program to whatever printer you care to use. This will set up all the core memory used codes, the so-called macros being used for its different way.

My first impression of this system was somewhat mixed. Being old-fashioned and key I expected to get **FOR**, **AUTHOR**, **EDIT**, but it did not work like that. Even a basic editor program for editing the program, loaded having loaded in the instructions and **LOAD**, then **EXEC** the program. In fact, it's the only of them I could not find between my original **Smithson** Computing copy and the V2.0 version supplied by Orange Software. The V2.0 version is not a bit like the **EDIT** command. The main display is on the high resolution screen and printed block on green either 64 or 64 columns wide with a core menu window at the bottom of the screen. This screen display is beginning to look pretty dated now with many people like myself using monochrome monitors or black and white terminals and it would have been better to use a black or white screen whatever was a multi-graphic display. To achieve this the 64 column screen. Wayne Smithson's version of the screen default the letters. This means that you have to touch your eyes to read a line type of just

VisiText-Plus

For **VisiText-Plus** is a good idea used in a word processor that would allow me to write letters on the Dragon. However, like many a good idea it gave evidence. The individual is a WYSIWYG (mostly) word processor that uses a 64-column screen and one handle 308 lines, about three pages of text, at a time.

Wanted is certainly one of the easiest systems to learn that I have ever seen. All that is necessary is to load the disk and type **GOOT** and map you go. The program is predominantly menu-driven and what is surprising is a feature of Basic and machine code. In the past Basic word processors have been criticised for being painfully slow. This is where the machine code comes in. Where speed is necessary machine code is used wherever Basic rules. This makes the system easy to modify or debug where necessary. In order to conserve space, Ron has produced a modular program which keeps its routines on disk until only loads them when they are required, leaving a complete set for fast access and the **DOZ**. The 64 column screen is a real pity. Twice of an 80 column monochrome monitor or television set approach the faster the block on white display. By using an unusual font for the screen Ron has produced probably the most readable 64-column screen ever to be seen on the Dragon. The characters do not merge and apart from a slight competition to a capital **S** and **W** it was no problem to read.

For the most part I should explain that WYSIWYG is an acronym meaning **What You See is What You Get**. This is what makes **Wanted** easy to use. It is possible to load the system, with a letter and print a correctly without leaving a single character code if it is right on the screen, it will be right on paper. Where the system fails is where almost all other systems go wrong, namely on non-standard characters like bold or enlarged. These only appear as

Dragonsoft

Now software for review should be sent to Dragon User,
at Alexander Road, Houslow, Wiltshire TW9 4HP

ed up writing. Because it has so many capabilities it is necessary to read the manual supplied pretty thoroughly before starting to use the system.

Not being WYSIWYG the screen width sets no limitation on the printed width. For instance, if it is put into condensed mode the printer will print 132 columns wide and the system will handle it. What is more, if you record an enlarged line it included the program will adjust the line accordingly. Printer codes are shown as initials prefixed by the control character. Unless otherwise defined, this is normally a hash sign as it is (that has come out of a £ sign at your printer. Am I?)

with double width. Such a format makes it easier to spot faults when it doesn't print correctly. A fill and justify command is available which gives nice neat margins of vertical space which allows columns to be widened.

Text can be copied or deleted. Both you may either create space for the new text or close up the space if text is deleted

No separate HDVD routine is included because if text is copied to a new file stored then the original deleted then the original text has effectively been moved. A separate routine to do the job would create a waste of space. Both page numbering and word count are supported by the program. B&W and L&C Print are included and in general work very well. There is even a facility to log another file from disc into the end of the text currently in memory which can then be sorted or moved around to form an integral part of the original article. One slight disappointment is that the DR command does not work with SuperDOS though a two byte patch will suit this. Also there is no support for the KILL, a text file without leaving the program.

Conclusion

Well, the key question is which program should you buy? The answer (as so often)

depends on what you want to do with it. Most of us like the versatility and overall ability of B&W&L. As for Electronic Art for writing other hard-looked for ease of use and the outstanding screen display of Master. In writing this review, I used each system and discovered that they are both very compatible so will probably suit both. The best advice I can give is that if you want speed, precision and visibility, write letters and short letters then the W&L is for you. If you intend to go into composition with Leo Tobey create your files in B&W&L. Electronic Art is a better bet.

Both programs are obtainable in Dragonsoft's format from Omega Software for £1995 (Electronic Art) and £1599 (Master Plus).

Ken G. Smith

Electronic Art



Master Plus



price



for value for money

Old favourite tours the world in triumph

Progress Computers

Supplier Computers 37 North End
Southminster Essex CM9 7AD Harry
Whitehouse 48 Green St Redditch
Worcestershire WR24 9AE
Price £795

WZP's few Dragon games can claim the success attributed to similar games on other computers, indeed, few Dragon games can claim to be the inspiration behind converting the idea to other computers. Yet both of these prominent quarters form the basis of one exceptional Dragon game: Harry Whitehouse's *Champions*.

Champions launched in 1980 rapidly captured the imagination of many Dragon users, the result being that it retained a position in the Dragon hall of fame as one of the most popular of all time Dragon games. And yet, while its popularity has never been in question, a mistake has never found its way into the pages of *Dragon User*.

To those not yet familiar the game involves playing one of the intriguing positions of a fourth division football manager whose aim is simply to become the next Brian Clough taking the pre-arranged team to the dizzy heights of the first division and subsequently into the realms of European football.

There are no obvious system requirements incorporated within the game, many of which were upgraded in 1982 in an unsuccessful attempt to lift off the mounting support on which it stood. Address is, however, a football manager's post. Candidates include a transfer market, a covered, line

Manager (perhaps reminiscent that football has so many battles off the pitch as on it), a compass and a stopwatch. A Cup with limited graphics is added on to vary the game as progress, while still primarily boosting the other half weekly events. Indeed, it is hard to envisage an aspect of football which the game doesn't portray.

If you ever find one of your Brand X-owning friends playing The Boss, or Soccer Boss, point out that it is a conversion of a Dragon game!

Harry Whitehouse, perhaps best still remembered in his former guise as Presswell, is quick to emphasise the game's success not only in the Dragon market but more usually in other formats as well.

"The point about *Champions* is that it is one of the most successful games, although few people recognise it," says Harry. "*Champions* did so well on the Dragon that we thought: This can't be bad, so we re-wrote for the ZX81, then the BBC Micro, Tandy CoCo, Dec and Spectrum. It is allowed again. During this time, we've been thinking of new features: some did a pretty thorough write before we brought it out for the Commodore 64 meaning it

then does. That slipped off into the top ten by us we incorporated all the improvements into the Spectrum and BBC Micro versions together with a new version for the Cric Atmos. Commodore 16, MSX and Amstrad CPC.

We can't call it a few copies by mail order through the football magazines, but the most interesting current point is that we re-released *The Boss* as a budget product in Atlantic States who have released it in Japan. In fact several core players have written it has been a bit of national top ten for a number of months (best position so far number two but we're keeping our fingers crossed).

The point about all this is that if you ever find one of your Commodore 64-owning friends playing *The Boss* or *Soccer Boss*, point out that that boss actually plays a conversion of a Dragon game. And if he happens to have another top ten game called *International Cricket* in the collection, well, guess how that began?

So, really, *Champions* has become somewhat of a cult among Dragon users and indeed in the computer industry in general. If the game has yet to find its way into your collection, whether you are interested in football or not, then you can be sure you will not find many more addictive and entertaining games than Harry Whitehouse's *Champions*.

Simon Jones



DRAGONSWORD!

Paul Grade takes a monthly stab at setting the world to rights

JUST let it change I think I ought to try writing about a subject I know really well. Not that I don't know all about everything, of course, only our beloved Editor could know more (and that will cost you a drink, Helen!) but I haven't come to know things like last about some things (than others). Such persons, who's made it so (Anybody here for today's going to be the running of our group and/or magazine, and I haven't very good idea for the choice I'm getting tired of seeing groups and magazines set up, but of which want and magazines, only today's without once a few months (or sometimes weekly) like:

There is a lot of different reasons why for someone to be a volunteer, but what I usually comes down to that people start to get closed away for the good (or bad) and don't get enough thought to the matter.

The Dragon could do with a lot more volunteer support. That is about the only link I can get to, because I haven't been a member, but I am not sure if it is a commercial basis, and anyone thinking they can make a profit out of the Dragon seem more probably better in terms of the Club and other projects too.

No profit

There is a lot of people for anything wanting to help keep the Dragon and other related writing small magazines, hardware projects etc, and of course running magazines and groups. None of them is going to make any profit, but I haven't seen for them to make a loss either (though they all need a lot of work, if you aren't prepared to work, do anything a favor and don't mind it).

Running a group is probably the most difficult of the lot (and I do not just saying that because I'm a writer). The first thing you need to decide is how big you want it to be, whether it should be local or national. Unfortunately this is where the mistakes usually begin! There is a great deal of local TOC (to) and get ideas about setting up a national group or mag, when resources aren't good enough. It is not a group of around a thousand users you need that many volunteers. For a start you need to work out where the resources are going to come from. How are you going to get the money, and more to the point what you are going to offer that will make other people join the club (if they can't refuse).

Think you can do it by advertising? Dragon User and Update would probably be happy to give you a mention, but you could even give advertising space, but you're looking for that, you're not for that a clean reply, and to get one of those would never be heard of again after the initial enquiry. Believe it or not there is NOT a crowd of Dragon users out there looking for them, and waiting for the chance to

join your group, just with very real and cynical ones who have had some before, but submitting to you and mag which have dropped out the day after they see their cheque. The only way you can hope local anywhere is start a group and hope that you can build up a good enough reputation for people to want to subscribe.

Start small

There is a couple of other reasons for starting small. First and foremost, running the TOC takes me around 100 hours a week, maintain all of the magazines to evenings and weekends off for a start, and then you need to be able to cover a £500-per-year phone bill (the class of telephone that you start usually find under £1000 even second hand) and a paper and postage bill that has to be seen to be paid for. If you have all the topics then please start a national group, and I promise to be one of your first members (but if you can't then please don't try to take on more than you can handle, it simply doesn't work). Usually the same points apply to magazines. There isn't quite so much work involved, but often costs are all very similar, and there will be the same problems involved.

Start small, a lot better to build up a reputation which will take you to expand, if you can't, you will find that of the people who told you what a good idea it was and that they would be willing to help with it, work will disappear like magic when you try to get them down to actually doing something at the time it needs doing. The promised material articles etc will never materialize, and that is the way everyone will be willing to tell you what you should be doing, none of them ever want to start a system of their own, it's a pity, the problem does improve with time, but of course you have to survive long enough to appreciate that.

Masochist

Society should give you a chance to start a group or a magazine? Well, probably to get a job, or perhaps because of your kind interests and altruistic nature, or even because you want to keep interest in the Dragon alive, and possibly learn more about the old world in the process.

Solar and moonshine, running TOC has taught me a lot about the world of the Dragon, got me some very useful contacts, a few very good friends, and was the only source of the TOC. It has written off any form of social life, and even will help to get some very good editors has given me far more work than I can do, and it's not a good thing. As an occupational hazard can be interesting, interesting, interesting, and a right pain in the anatomy. It has been advised that I

you also surprised the editor (I'm not sure).

Don't get the wrong idea, I'm not not really not happy about you! What I AM saying is that you're sure you know what you're taking on, so that you've a better chance of success.

The point is that when you start something like a group or a magazine you're asking people to accept you on trust. You're asking them to pay you money and you're asking for something you'll have to pay for. You can't just take the money and run, because that it is so much better for much work, and don't think that. That doesn't just mean that the rate pattern looking for you, with their favorite piece of lead piping, or the local phone waiting you to start them with the old money, these are the same points under interest only to yourself and your local society department. The real damage is done to the entire Dragon scene, people decide that enough is enough, and they aren't going to be in something happening again, so the future groups and magazines suffer, and other software distributors (the only local help) suffer, because TOC will have made people go more reluctant to risk their money. Get the picture?

Fun

Running a group or a magazine can be a lot of fun, and can help a lot of people, but please think the thing through properly before you start. We need more groups, especially local ones, the type which can't be a lot of quality, but that's not the way which can do most for the Dragon scene. A really good network of local groups would be much better than one or two local ones. Even TOC and local Dragon magazines can carry much more of the burden than their immediate readers, than national ones, which has to take a more general view of things, and of course means out on a lot of local men, and of course, if you aren't a really good job of things, eventually you'll get subscribers from outside the immediate area, and then you're ready to go national, and then the local scene for someone else to cover.

Was I wrong? I didn't do it that way, but that was four years ago, and I'm not sure I'm not happy that and the advantage of being used to running a business, and could run a Group on the same lines. Times have changed now, the scene is smaller, and people are more reluctant to chance their money.

Anyway, let the local ones you or get involved with, and I'll be in a position to get that good for your magazine, so well, but please remember that I don't like writing about that.

Paul

MacGowan Consultants

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REAL VALUE FOR MONEY SOFTWARE

Access and Search

D. Hill gets into his programs and out with the numbers

HAVING recently spent many hours writing along Basic programs involving random access to disk files, I decided to change the name of one of the disk files as the disk I now had the name containing lack of access through the editor programs for all references to the old file name in order to change it to the new one.

The thought of all that executing programs to enter programs do it for me. My first thought was a stochastic program but this created the problem of loading a two-byte program into memory which although not a great problem was never theless a nuisance as well as taking up valuable memory.

What I wanted was a machine code program which would search a Basic program in memory for any string of characters entered and report the hex address of all lines containing that string. This program is the result.

The program is written in relocatable code but is best loaded to 16000 after having reserved space for it. Typing

```
PCLEAR CLEAR$=1000
```

will leave the maximum amount of free memory to load the Basic program to be

searched. A hex dump with checksum is included which can be loaded with Pure Assembler (Dragon User June 1988).

The program first checks that there is in fact a Basic program in memory sets Flag #1 (page 8) pointer 17003, then inputs the string to be searched for.

Tokens

All characters used in tokens are those of Basic command words. are stored as tokens themselves. The next stage is to compare the tokens against the string to be searched. If it is recognized, you are not whether the results are to give a pointer to the address of the first Flag #1 is set to 1. The number of lines containing the string is then displayed and the user enters Device checks Flag #1 and copies the results to the printer if it is set.

The maximum length of the strings are 255 and should be checked at all times in case the file is not executed. The software SCPLM ensures that the results do not overflow the screen and a key is pressed.

I think that for the more expert programmers among you could improve upon my efforts. Nevertheless, I thought I would

be it stored somewhere if only as an example of what can be achieved by someone with the knowledge of computing other than that learned from the magazine or books published in Dragon User and a copy of Assembler Dragon.

When first written, every time the program ended using Ctrl-C the basic command mode an SN Error was flagged. Apparently the computer was looking at the area of memory which had just been used but it was cleared with the "Clear input buffer and set" in my editor so I had no idea. I'm not exactly sure how it works but it does.

Help!

There are several articles in Dragon printed inside the Dragon explaining how a Basic program is stored in memory but I couldn't find anything to explain exactly what happens when you type a string of characters into the editor and press enter. Maybe one of you knowledgeable people could enlighten me by writing an article on which locations are used etc.

Finally, my sincere thanks to the many people who submit informative articles and to Dragon User for publishing them.

```
31000 8D,8A,77,6F,8D,02,AE,EC,7F,0D,
31010 19,10,83,00,00,26,07,30,8D,01,
31020 F1,8D,6F,3F,8D,8A,77,30,8D,01,
31030 79,8D,61,8D,6C,8D,3E,8D,3A,77,
31040 17,0D,A2,6D,8D,02,94,26,0D,6F,
31050 8D,02,80,30,8D,01,EA,8D,47,17,
31060 01,1B,86,0D,8D,8D,0C,6F,8D,02,
31070 8E,30,8D,02,34,8D,35,8D,A0,EA,
31080 81,8F,27,C4,8E,02,0D,9F,A6,7F,
31090 02,0D,7F,02,8E,7F,02,DF,3F,8D,
31100 8A,77,30,8D,01,E5,8D,16,8D,A0,
31110 EA,01,89,27,0A,01,50,26,EC,6C,
31120 8D,02,34,20,04,6F,8D,02,34,3F,
31130 A6,8D,26,01,3F,8D,8D,0C,17,0D,
31140 C3,20,F3,5F,30,8D,02,0B,34,10,
31150 8D,A0,EA,35,10,81,0D,27,1A,8D,
31160 8D,0C,81,0B,26,07,30,1F,5A,2B,
31170 C4,20,E7,47,8D,5D,C1,14,2B,ED,
31180 8D,0B,17,FF,3F,E7,8D,01,F7,3F,
31190 86,0D,8D,8D,0C,30,8D,01,21,8D,
31200 3F,8D,A0,EA,3F,6F,8D,01,E2,7E,
31210 17,10,AE,84,10,8D,0D,00,27,7C,
31220 34,20,EE,02,34,4D,8D,3F,0B,35,
31230 40,9E,02,0D,31,8D,01,81,E6,8D,
31240 01,02,A6,8D,4D,26,02,30,5A,A3,
31250 A4,27,02,30,ED,5A,27,04,31,21,
31260 30,6C,6D,8D,01,A9,26,15,86,0D,
31270 8D,6D,30,8D,00,AA,17,FF,6B,8D,
31280 40,86,0D,8D,8D,0C,17,0D,4F,DC,
```

```
CHKSUM= 1317
CHKSUM= 407
CHKSUM= 1230
CHKSUM= 1300
CHKSUM= 731
CHKSUM= 950
CHKSUM= 759
CHKSUM= 1130
CHKSUM= 1270
CHKSUM= 3172
CHKSUM= 1236
CHKSUM= 3086
CHKSUM= 600
CHKSUM= 742
CHKSUM= 967
CHKSUM= 1046
CHKSUM= 524
CHKSUM= 1350
CHKSUM= 1159
CHKSUM= 840
CHKSUM= 1462
CHKSUM= 666
CHKSUM= 823
CHKSUM= 3168
CHKSUM= 889
CHKSUM= 687
CHKSUM= 894
CHKSUM= 3122
CHKSUM= 962
```

31290	88,10,88,08,9F,28,02,8D,9F,1F,	CHKSUM=	737
31300	30,34,06,8D,98,74,68,88,01,7F,	CHKSUM=	944
31310	27,0D,04,6F,04,6F,38,04,8D,98,	CHKSUM=	491
31320	74,0F,6F,20,02,38,04,84,2C,8D,	CHKSUM=	708
31330	80,0E,17,00,21,6C,8D,01,69,38,	CHKSUM=	595
31340	10,16,FF,78,39,31,8D,01,42,64,	CHKSUM=	940
31350	8D,01,53,C1,00,26,01,39,54,64,	CHKSUM=	770
31360	40,8D,80,0C,8D,02,20,F1,6D,88,	CHKSUM=	1153
31370	01,41,2F,93,8D,80,0F,39,34,14,	CHKSUM=	879
31380	30,8C,79,64,8D,01,32,17,FE,FC,	CHKSUM=	1134
31390	4C,8D,01,28,8D,4D,84,8D,84,77,	CHKSUM=	1370
31400	35,16,39,45,4E,54,48,52,20,59,	CHKSUM=	429
31410	45,41,52,43,40,20,53,54,52,49,	CHKSUM=	709
31420	4E,47,20,41,4E,44,30,30,50,52,	CHKSUM=	418
31430	45,53,53,20,30,39,48,4E,54,45,	CHKSUM=	631
31440	52,29,39,20,30,09,54,49,45,20,	CHKSUM=	447
31450	46,4F,4C,4C,4F,57,49,4E,47,20,	CHKSUM=	721
31460	4C,49,4E,45,53,20,43,4F,4E,54,	CHKSUM=	719
31470	41,49,4E,20,34,48,45,20,53,54,	CHKSUM=	472
31480	52,4F,4E,47,2E,2E,2E,00,53,54,	CHKSUM=	409
31490	52,4F,4E,47,20,54,4F,4F,20,4C,	CHKSUM=	484
31500	4F,4E,47,20,50,52,45,53,53,20,	CHKSUM=	499
31510	41,4E,59,20,48,48,59,00,4E,4F,	CHKSUM=	454
31520	20,42,41,53,49,43,20,30,52,4F,	CHKSUM=	459
31530	47,52,41,48,4D,43,20,47,4E,20,	CHKSUM=	454
31540	4D,45,4D,4F,52,59,50,54,48,45,	CHKSUM=	499
31550	52,43,20,41,32,43,20,4E,4F,20,	CHKSUM=	490
31560	43,43,43,53,53,52,45,4E,43,43,	CHKSUM=	745
31570	53,20,4F,46,20,54,48,43,20,53,	CHKSUM=	436
31580	54,53,49,4E,47,2E,2E,2E,2E,2E,	CHKSUM=	418
31590	60,20,30,52,45,53,55,4C,54,53,	CHKSUM=	424
31600	20,54,4F,20,53,43,52,45,45,4E,	CHKSUM=	479
31610	20,20,4F,52,20,20,52,49,4E,54,	CHKSUM=	484
31620	43,53,20,20,20,50,52,45,53,53,	CHKSUM=	444
31630	20,79,30,4F,52,20,70,20,00,41,	CHKSUM=	581
31640	4E,4F,54,49,45,52,20,53,45,41,	CHKSUM=	719
31650	52,43,49,3F,3F,20,20,50,52,45,	CHKSUM=	442
31660	5C,53,20,79,20,4F,52,20,4E,00,	CHKSUM=	454

```

1300          *SEARCH A BASIC PROGRAMME FOR #
1300          *ANY STRING INPUT.DEFAULT LOAD #
1300          # ADDRESS=31000,TYPE PCLEAR) #
1300          # CLEAR30,31000 BEFORE LOADING #
1300          # BY DENNIS HILL (1987) #
1300          *****
7910 7910          ORG      21000
7910          PUT      3000
7910 8000          CATCH  EQU  #0000
7910 800F          DUTCHP EQU  #000F
7910 80EA          WAIT  EQU  #40EA
7910 8A77          CLS   EQU  #8A77
7910 9576          OUTRUM EQU  #9576
7910          *****
7910 80BA77        JCR   CLS ,CLS IN ROM
7910 8F8D02AD     CLR   FLAGB,PCB
7910 8C7F0019     LDD  (#19)CHECK FOR
7923 1083D000     CWD  50 ;#POB.IN
7927 2607        FMB  START INMEMORY
7929 308801F1     LEAX HOMEB,PCB
792D 8D48        RRR  OUTRUM
792F 3F          RTS

```

```

7930 *****
7930 * PRINT PROMPT MESSAGE *
7930 * AND INPUT SEARCH STRING *
7930 *****
7930 BDBA77 START JBR CLS
7933 30800174 LEAX PROMPT,PCR
7937 8D41 BSR OUTSTR
7939 8D4C BSR INSTR
793B 8D36 BSR PRTER ;PRINTER??
793D *****
793D * DECRUNCH, SEARCH, PRINT LINE NO# *
793D *****
793D BDBA77 JBR CLS
7940 170062 LBRB GETLN
7943 4D880583 TST NU,PCR ;FOUND??
7947 2650 BNE RETURN
7949 6F88027F CLR FLAGB,PCR
794D 308001EA LEAX NOTFND,PCR
7951 8D47 BSR OUTSTR
7953 17011B LBRB PRTRB
7955 *****
7955 * ANOTHER SEARCH?? *
7955 *****
7956 8600 RETURN LDA #000
7958 8D800C JBR OUTCN
795B 6F88026D CLR FLAGB,PCR
795F 30800234 LEAX HORNES,PCR
7963 8D35 BSR OUTSTR
7965 8DA0EA JBR WAIT
7968 8159 CHFA I'Y
796A 27C4 BSR START
796C *****
796C *SOLDS INPUT BUFFER ELSE ERROR *
796C * ON RETURN TO BASIC *
796C *****
796C 8E02DD LDC #2DD
796F 8FA6 STX #A6
7971 7F02DD CLR #2DD
7974 7F02DE CLR #2DE
7977 7F02DF CLR #2DF
797A 39 RTS
797D *****
797D * OUTPUT TO PRINTER?? *
797D *****
797E BDBA77 PRTER JBR CLS
797E 30800183 LEAX BEVBR,PCR ;RESULTS
7982 8D14 BSR OUTSTR ;TD
7984 8DA0EA JBR WAIT ;PPINTER??
7987 8159 CHFA I'B
7989 27C4 BSR HORPT ; NO.
798B 813D CHFA I'P
798D 266C BNE PRTER ;INVALID
798F 6C88022F INC FLAGB,PCR
7993 30C4 BRA YESPR
7995 6F880233 HORPT CLR FLAGB,PCR
7999 39 YESPR RTS
799A *****
799A * PRINT A TEXT STRING *
799A *****
799A 8680 OUTSTR LDA ,X+
799C 2605 BNE OUTL
799E 39 RTS

```

```

7977 8880C      OUTJ   JBR      OUTCH
79A2 1700E3     LEGR   DEVIC#  (PRINTER???)
79A3 20F2      BR#    OUTSTR
79A7          *****
79A7          #INPUT STRING TO SEARCH FOR AND#
79A7          # STORE LENGTH IN LENSTR
79A7          *****
79A7 3F        INSTR  CLR#
79A8 3000-020A LEAY   STRNG,PCR
79A9 341D      GETCH  P#HS  X
79AE 80A0EA    JBR    WAIT  (KEY PRESSED??)
79B1 3510     PUL#  X    (YES)
79B3 8108     CRPA  #008  (ENTER???)
79B5 271A     #B#   FIN   (YES)
79B7 8D80DC    JBR    OUTCH  (NO PRINT IT)
79BA 8100     CRPA  #08  (BACKSPACE??)
79BC 2407     #BE   STORE  (NO)
79BE 301F     LEAX  -1,X  (YES, GO BACK)
79C0 5A       DECB#  (ONE IF NOT)
79C1 28E4     #H#   INSTR  (NO VALUE)
79C3 26E7     BR#    GETCH  (TRY AGAIN)
79C5          *****STORE SEARCH STRNG*****
79C5 STA     ,X*
79C7 5C       INCB#
79C9 C114     CRPB  #20  (MAX LENGTH)
79CA 23E0     #LS  GETCH  (OK)
79CC 8508     BR#    TOOB#  (TOO LONG)
79CE 17FF5F    LEGR   START
79D1 878E01F6 FIN   ST#   LENSTR,PCR
79D3 3F       RTS
79D4          *****
79D4          # STRING TOO LONG #
79D4          *****
79D6 8605     TOOB#  LDA    #00
79D8 8D80DC    JBR    OUTCH
79DB 308E0121 LEAX  ERRCR,PCR
79DF 8DB7     BR#    OUTSTR
79E1 80A0EA    #IGJ  JBR    WAIT
79E4 3F       RTS
79E5          *****
79E5          # DECRUNCH LINE, SEARCH IT AND #
79E5          # PRINT LINE NUMBER IF FOUND #
79E5          *****
79E5 4F9D01E1 GETLN  CLR   #U,PCR  (LINED #NO)
79E9 9E19     LBN   #19  (STARTOF PRG.)
79EB 104E84    NNTLN  LBN   ,X    (NEXT LINE ADD)
79EE 108C00C0 CRPY  #0  (END OF PROG?)
79F2 277C     #E#   #NB#  (YES)
79F4 3425     P#HS  Y    (SAVE NXT ADD)
79F6 8E82     LBN   0,X  (GET LINE NO.)
79F8 3440     P#HS  U    (SAVE IT)
79FA 8D8F08    JBR    #BFOR  (DECRUNCH)
79FB 3540     PUL#  U    (RECOVER)
79FF          *****PRINT TO DECRUNCHED TEXT*****
79FF LBN   #008#
7A02 318E01B0 RESET  LEAY  STRNG,PCR
7A04 868D01C1 LBN   LENSTR,PCR
7A0A A630     NNTCHR LDA   ,X*
7A0C 4D       TSTA  (END OF LINE?)
7A0D 2402     #NE   SEARCH  (NO)
7A0F 205A     BR#    NNTLN#  (YES)

```

```

7A11 *****
7A11 * SEARCH LINE FOR STRING *
7A11 *****
7A11 01A0 SEARCH CMPA ,Y (CHARACTER
7A13 2702 B00 MATCH (MATCHED??
7A15 20E8 B0A RESET ; NO
7A17 5A MATCH B00B YES
7A19 2704 B00 PRIMES CALL MATCH
7A1A 3121 LEAR ;,Y B00
7A1C 20E8 B0A MATCHR (TRY AGAIN
7A1E *****
7A1E * PRINT LINE NUMBER IF MATCHED *
7A1E *****
7A1E 600D01A0 PRIMES TST NU,PCP ;LIST ONE 80
7A22 2618 B0E CHKSC (ENDMESSAGE
7A24 8600 LDA B00D
7A26 8D60 B0R DEVICE
7A28 300D00AA LEAR ENHMG,PCP
7A2C 17FF68 LBR OUTSTR
7A2F 8D40 B0R PRSTR
7A31 *****
7A31 *****START ON NEW LINE*****
7A31 8600 LDA B00D
7A33 8D60C0 JBR OUTCH
7A36 17004F LBR DEVICE
7A39 *****
7A39 CHKSC LDB B00 (SCREEN
7A3B 100D05FF CMPB B00F (FULL??
7A3F 2502 BLD PRTLN (NO
7A41 8E4F B0R SCFULL ;YES
7A43 1F30 PRTLN TRB U,B
7A45 3406 FSHB D
7A47 88957A JSR OUTNUM
7A4A 6D0D017E TST FLAGB,PCP ;OUT TO
7A4C 270D B0R NOCOPY ;PRINTER?
7A50 0A6F DEC %F (YES,SET
7A52 0A6F DEC %F (TO -2
7A56 3506 FULB D
7A58 8D957A JSR OUTNUM
7A59 0F6F CLR %F ;SET TO 0
7A5B 2002 B0A COMMA
7A5D 3506 NOCOPY FULB B
7A5F 842C COMMA LDA E', ;PRINT A ,
7A61 8D00C0 JSR OUTCH
7A64 170021 LBR DEVICE
7A67 620D015F INC INC NU,PCP
7A6B 3510 NXTLMZ FULB X (ADD OF NPT LINE
7A6D 16FF78 LBR NPTLN
7A70 37 END RTB ;END OF BASIC PROG.
7A71 *****
7A71 * PRINT SEARCH STRING *
7A71 *****
7A71 318D0141 PRSTR LEA STRING,PCP
7A75 548B0132 LDB LBR,TP,PCP
7A77 C109 PRINT1 CMPB B0 ;PRINT THE
7A7B 2671 B0E BCL ;SEARCH
7A7D 39 RTB ;STRING
7A7E 5A BCC DECB
7A7F 4580 LDA ;Y
7A81 8D00C0 JSR OUTCH
7A84 8D92 B0R DEVICE ;PRINTER??
7A86 20F1 B0A PRINT1

```

```

7A88 *****
7A89 OUTPUT TO PRINTER IF FLAG SET=9
7A8A *****
7A8B 608D0140 DEVICE IS1 FLAG,PCR
7A8C 2F03 BLE SE:END
7A8E 80800F JSR OUTCHP
7A91 3F DEVDND RTS
7A92 *****
7A93 * SCREEN FULL,SO PRINT MESSAGE *
7A94 * AND WAIT FOR KEY PRESS *
7A95 *****
7A96 3416 SCFULL PSHS X,B
7A9A 308C70 LEAX SCREEN,PCR
7A9T 6A8D0131 DEC FLAG,PCR ;PRINTER
7A9B 177EFC LBRJ OUTSTR 10FF AND
7A9E 6C8D012A INC FLAG,PCR 10H
7AA2 3D40E4 JSR WAIT
7AA5 80BA77 JSR CLS
7AA8 3516 PULS X,B
7AAA 3F RTS
7AAD *****
7AAB 4548544552 PPOHPT FCC /ENTER SEARCH STRING/
7AB6 3041484430 FCC / AND PRESS ENTER/
7AD6 3080808000 FCC / /,0
7AD8 5484852046 ENHRES FCC /THE FOLLOWING LINES/
7AE7 30434F4E84 FCC / CONTAIN THE STRING/
7AF0 2E2E2E00 FCC /.../,0
7B00 535452494E ERROR FCC /STRING TOO LONG /
7B10 5072455353 SCHESS FCC /PRESS ANY KEY/,0
7B1E 484F204241 HOMES FCC /NO BASIC PROGRAMS/
7B35 30494E204D FCC / IN MEMORY/,0
7B3B 5448453245 NOTFND FCC /THERE ARE NO OCCUR/
7B45 52454E4345 FCC /ANCES OF THE STRING/
7B60 472E2E2E2E FCC /G...../,0
7B77 3020524553 DEVPES FCC / RESULTS TO SCREEN/
7B7A 30204F3220 FCC / OR PRINTER PRES/
7B8D 532073204F FCC /S * OR p /,0
7B9T 414E4F3440 HOMES FCC /ANDTHER SEARCH??/
7BA7 7020502245 FCC / PRESS , OR n/,0
7B86 STRING PNB 20
7BCA BU RNF 1
7CC8 LENSFP PNB 1
7CC C FLAG RNB 1
7CC

```

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Winners and Losers

Every month
Gordon Lee will
look at some prize programming

WHEN the American research physicist Frank Gray first developed the code game which now bears his name, he could have had no idea of its profound success. It would become our computer nerds' hall of ceremony later.

Regular entries to the competition on D.J. Gray (note that name!) thought he had created it by combining his Uncle Frank only to be told that it wasn't him and he had only passed it on to his American and I'd like to see it! Auntie Betty! Sorry D.J. I hope the reason behind his early fame is obvious.

However, unfortunate D.J. along with a few few others, is alleged to have the code to produce a Gray to binary program. And what a selection of end users there were. In October a number of multi-page magazines using techniques related to Exclusive OR gates, light traps (which I believe I thought were a type of transistor), Boolean logic and Karnaugh maps did all this (seems a little daunting then, but you can play it to learn to find 2's plus or Minus through whose bare bones, program a given time (rolling eye). Although not even trapped (Fred did include a longer area trapped program) it is wonderfully a nightmarish and does (for) (re) coding the basic algorithm as that is (re) coded on the Answer page of the same issue.

Leading line is an even simpler program using the same algorithm, and has the added advantage that it can be used to convert Gray codes of arbitrary length (I believe it is used to convert 2's to Gray and the logic behind the coding).

It is intended to find values of Stone's Statistics for some additional notes on evaluating a Gray code directly into its decimal equivalent. Each Gray code bit which is set to 1 is added to the sum for

each 2ⁿ (2ⁿ where n is the bit position (starting from the right-hand end). Back of the values of the bits set to 1 are then added to the total. For example, taking the Gray code 1010011001 we would get:

1	0	1	1	1	0	1	0	1	0	1
256	128	64	32	16	8	4	2	1		
Gray Code	1	0	1	1	0	1	0	1	0	1
Total	256		64	32		16	8	4	2	1

Decimal equivalent = 584

While on the subject of counting from the right hand end, I'm taken to ask by Randy Longshore of Chesterfield over the answer to the September '87 competition. This was the calculation of a 36523471 number or at least the digits at positions 1000, 10000 and one to twenty thousand. Why he asks 'are the digits contained from the left to the right' instead as Randy had done 'from the right (physical point) and I suppose that the logical answer would be that 'had the answer been 1470997091 and I had asked for the last digits, for a thousand

year term? Consequently, the fact that the number has many thousands of digits will not affect the end (one which you count 000).

I can offer only a flippant without fear of a punch on the nose from Randy as the tests from Chesterfield '88 and the Chesterfield '89 finally on the subject of the 10 (breakers) and I'm still trying to work out Helen (Belmont's) my personal favorite comes from D.J. Gray.

'There is no doubt that I am the most eligible person to stand in a parade and I have my own eight records and later powered record player. I have no need of the complete works of Shakespeare and am prepared to donate the family bible. My Diogenes' (of course he's the last year) as all I can ask for is a regular delivery of Dragon User (please) etc.'

As a slightly harassed computer of some pretensions, I'm used to forward a strong claim for my bit by Lee D.J. Gray. I too would happily lose the works of Shakespeare but without my printer today, up the road I'm afraid it only to those states of mind (just as the original note).

Listing 1

```
10 INPUT GRAY CODE :IN
20 FOR I=1 TO LEN(IN)
30 PRINT (IN(I)*2^((I-1) * 8) + IN(I) * 2^((I-1) * 4) + IN(I) * 2^((I-1) * 2) + IN(I) * 2^((I-1) * 1))
40 PRINT "-----"
50 PRINT "HEX: CODE :IN
```

Listing 2

```
10 I=0
20 GR=(IN(I)*2^((I-1) * 8) + IN(I) * 2^((I-1) * 4) + IN(I) * 2^((I-1) * 2) + IN(I) * 2^((I-1) * 1))
30 I=I+1
```

Vive les differences

Graham Smith compares the Dragons 64 and 32

With so many Dragon 64s becoming available on the second hand market at reasonable prices (in the region of £50 to £75) I am sure that many people will be considering alternatives to the 64. Before I discuss the main differences between the two Dragons, let's just cover a few of the possible reasons for buying a 64.

It may well be your first Dragon (have you any more?) and you only intend to play commercially available games (and be honest here nobody offers as many a computer by saying they want to do their seven accounts on it). 64 games will usually play on a good machine but if you are a gamer you will probably also find a 32 which can often be picked up for half the price and you will never use the extra features available on the 64. Having said that, if you can afford the odd bit to buy the 64, you may think you're later when you're interested when you

if you have a 32 and fancy a bit more then you won't get stuck for the 32 if you try to sell it, especially if you are one of those people who just the £50 £75 when they come in. I would advise you to buy a 64 (although it's a pity as many of the 64s which the operators never really can be swapped over and they would cost more to replace than you would get for the 32).

The built-in RS232 port on the 64 can be enough to justify buying for anyone interested in electronic mail systems (such as the 64) or adding an RS232 port to a 32 usually means the change port. If you are interested in an example the Magna Electronics RS232 644 assembly kit for a Dragon 32 costs just about £74. Not too cheap and there's the call-in price!

Anyone wanting to use one of the alternative printing systems (PLAX, QDS or

RedCo) must have a Dragon 64 (or a suitable upgraded 32) with a dot drive.

Now to describe the main differences between the two machines. Essentially the 32 is a better machine than the 64. The 32 says Dragon 64 and on the subject of the joystick ports is another scored marked 640 which is the RS232 port. Essentially the 64 costs more than the 32 with a few extra bits (I'm assuming it). There are the extra call-in (and a few scoring the increased basic software) (I will come back to this soon later).

There are a few minor differences between the 64 and the 32 and the 64. The two come with 320 characters and 640 characters and the 64 has a 640 port for transferring files from another computer. This port can also be used with a cable printer if you have a 640 (I will not print it) or

Continued on page 68

GOSUB

Paul Burger captures screens the simple way

HAVING completed a being about to write a programming masterpiece, it's always a good proposition to include well presented and carefully crafted menus or title screens. However, writing such CGR numbers, PRINT statements and ordering an effect quite a task, especially when graphics are concerned, so here's a program to cut out this kind of work.

The file is actually a program which writes Basic! After all, why spend hours producing something when the computer can do it for you? Here's the code!

The program is written in machine code and is very simple to use. Simply load a Basic program and give Gosub Writer a screen, and it will write a program to do whatever program wishes (input/output/loop/GOSUB).

When the program runs it scans the screen line top to bottom, coding it as a scan. The last line of the program always a ROM statement and followed by a CLR. The lines are numbered in time, starting from the next multiple of 100. The program ends with a RETURN. Nothing escapes the eye of the computer so that when the routines are called it makes an exact replica of what was on the screen.

Most of the lines will be PRINT statements which control direct text, or for multiple characters the computer will choose to use the STRING\$ command. The program will also code graphics using the CGR command and characters, which cannot be printed will be POKE'd to the screen. For position the computer will use the PRINT statement when necessary and to ensure that the screen content is not lost, it always always PRINTs lines.

The length of the lines are also kept under control, with the computer starting a new line for every screen line and adding when too many statements build up.

Entering the program

Prerequisite: requires the Basic loader and run it. You must now enter all the data for the machine code field in **Listing 1**. When you first start, enter 10000 for the address. Then enter each word of data, followed by the address. Only lines not longer than 255 will need to be entered again. If you need to break off, begin typing the whole thing, press BREAK and save using.

CGAMEM WRITER 1000 5 0

You can then continue at any time by reloading the loader and machine code using CLOADM. Don't forget to note the location from which you have to carry on.

When you have typed the whole thing (position = 3000) press BREAK. If you have a Dragon 64 you must do the following patch:

POKE 2855,1:POKE 2871:POKE 2887,1:POKE 2898,2

To save Gosub writer type

CGAMEM WRITER 1000000 1000

The program is now ready to use, but it is unlikely that you can do it with ease if you have a screen editor to create the screens in the machine. For those who do not, I provide one here, but if you do have one, you can use it to create a screen with Gosub Writer and if you wish, you will need to type the following. The only address for Gosub Writer is 1000. The program to be coded is assumed to be generated from 1004 to 1030 and locations 28 and 29 read just before the initial Basic location 27 and 28 read equal locations 28 and 29, plus 2. Others are a ROM.

Back to screen and usually some computer listing Gosub writer use.

POKE 1845:LOADM 888C 1000

This code allows loading without the usual flashing to corrupt the screen.

To enter the screen editor use the hot loader to enter the short patch, load program then as direct commands type

POKE 28 to POKE 28, POKE 2871 to POKE 2871, POKE 2887 to POKE 2887

Next type in Listing 1 and very carefully DO NOT RUN IT YET! When typed, you can save Gosub Writer the patch and Basic screen editor by typing

CGAMEM WRITER 1000000000

Now that everything is installed, you can take advantage of the features of Gosub Writer. Using the program is simple.

- 1) CLUED the necessary Basic program if any. Do not PCLEAR before PCLEAR 3
- 2) Load Gosub Writer using CLOADM 888C

Don't worry (as there are two Basic programs in the computer). The short patch takes care of this.

The screen editor is menu driven and supports cursor control. The keys for editing are as follows:

ENTER — Swap between text/graphics mode

Arrows — Move cursor and draw

Arrows + shift — Move cursor

0 to 9 — Colours for graphics

CLEAR — Return to menu

SHIFT + O — Swap between upper/lower case (even for numbers)

8 other keys are also available, with the help to supply the complete program and about 80 tape for CGR. Available in Paul Burger, 18 Moorcroft Road, Sheffield S10.

Listing 1

```
10 *HELLOADER = Enter each line of
20 *digits and then input the check sum
30 PCLDPR2:CLR:INPUT "NAME FROM":S
40 PRINT "NAME FROM":PRINT "NAME FROM"
50 PRINT "24:STR$(NAME):"IF NOT(DIGIT$(NAME))
60 PRINT "24:STR$(NAME):"IF NOT(DIGIT$(NAME))
70 GOTO40
80 PRINT "24:STR$(NAME):"IF NOT(DIGIT$(NAME))
90 PRINT "24:STR$(NAME):"IF NOT(DIGIT$(NAME))
100 GOTO40
```

Listing 2

```
1530: 000070F0000000C20F0000= 1454
1540: 040010F01F10500002200000= 754
1550: 170000000000000000000000= 1270
```

```
1572: 17F0170F0000000000000000= 1450
1584: 02000000000000000000000000= 1790
1594: 00000700000000000000000000= 1562
1604: 00000000000000000000000000= 1462
1614: 00000000000000000000000000= 1387
1624: 00000000000000000000000000= 1633
1634: 00000000000000000000000000= 1347
1644: 00000000000000000000000000= 1589
1654: 00000000000000000000000000= 1536
1664: 00000000000000000000000000= 1143
1674: 00000000000000000000000000= 1447
1684: 00000000000000000000000000= 1433
1694: 00000000000000000000000000= 1634
1704: 00000000000000000000000000= 1617
1714: 00000000000000000000000000= 1305
1724: 00000000000000000000000000= 545
1734: 00000000000000000000000000= 1270
```



```

38 IF=0:GOTO 57:TL=200:RNDM=7:RNDM=3:RNDM=
57:RNDM=
40 IF TL=0:THEN TL=200:RNDM=7:RNDM=
50 GOTO 40
60 PR=PRD(1):POK=15:INT TL=200:POK=
77:TL=PRD(2):POK=30:POK=40:IF PR=1:20
THEN PR=TL:200
70 PR=PRD(3):IF PR="THEHIGHEST:777:GOTO 70
80 PRD(4)=PR+THEPR=TL+3:ELSE PRD(4)=0
THEN PR=TL+3:ELSE PRD(4)=PR+THEPR=TL+3:
90 PRD(5)=PR+3:ELSE PR=TL+3:ELSE PR=
100 PR=PRD(6):IF PR=0:GOTO 70
110 PRINT TL:GOTO 40
120 PRD(7)=PR+THEPR=TL+3:ELSE PRD(7)=
130 PRD(8)=PR+THEPR=TL+3:ELSE PRD(8)=
140 PRD(9)=PR+THEPR=TL+3:ELSE PRD(9)=
150 PR=PRD(10):GOTO 40
160 PR=PRD(11):IF PR=1:20:GOTO 70
170 PR=PRD(12)
180 PR=PRD(13):IF PR=1:20:GOTO 70
190 PR=PRD(14):IF PR=1:20:GOTO 70
200 PR=PRD(15):IF PR=1:20:GOTO 70
210 PR=PRD(16):IF PR=1:20:GOTO 70
220 PR=PRD(17):IF PR=1:20:GOTO 70
230 PR=PRD(18):IF PR=1:20:GOTO 70
240 PR=PRD(19):IF PR=1:20:GOTO 70
250 PR=PRD(20):IF PR=1:20:GOTO 70
260 PR=PRD(21):IF PR=1:20:GOTO 70
270 PR=PRD(22):IF PR=1:20:GOTO 70
280 PR=PRD(23):IF PR=1:20:GOTO 70
290 PR=PRD(24):IF PR=1:20:GOTO 70
300 PR=PRD(25):IF PR=1:20:GOTO 70
310 PR=PRD(26):IF PR=1:20:GOTO 70
320 PR=PRD(27):IF PR=1:20:GOTO 70
330 PR=PRD(28):IF PR=1:20:GOTO 70
340 PR=PRD(29):IF PR=1:20:GOTO 70
350 PR=PRD(30):IF PR=1:20:GOTO 70
360 PR=PRD(31):IF PR=1:20:GOTO 70
370 PR=PRD(32):IF PR=1:20:GOTO 70
380 PR=PRD(33):IF PR=1:20:GOTO 70
390 PR=PRD(34):IF PR=1:20:GOTO 70
400 PR=PRD(35):IF PR=1:20:GOTO 70
410 PR=PRD(36):IF PR=1:20:GOTO 70
420 PR=PRD(37):IF PR=1:20:GOTO 70
430 PR=PRD(38):IF PR=1:20:GOTO 70
440 PR=PRD(39):IF PR=1:20:GOTO 70
450 PR=PRD(40):IF PR=1:20:GOTO 70
460 PR=PRD(41):IF PR=1:20:GOTO 70
470 PR=PRD(42):IF PR=1:20:GOTO 70
480 PR=PRD(43):IF PR=1:20:GOTO 70
490 PR=PRD(44):IF PR=1:20:GOTO 70
500 PR=PRD(45):IF PR=1:20:GOTO 70
510 PR=PRD(46):IF PR=1:20:GOTO 70
520 PR=PRD(47):IF PR=1:20:GOTO 70
530 PR=PRD(48):IF PR=1:20:GOTO 70
540 PR=PRD(49):IF PR=1:20:GOTO 70
550 PR=PRD(50):IF PR=1:20:GOTO 70
560 PR=PRD(51):IF PR=1:20:GOTO 70
570 PR=PRD(52):IF PR=1:20:GOTO 70
580 PR=PRD(53):IF PR=1:20:GOTO 70
590 PR=PRD(54):IF PR=1:20:GOTO 70
600 PR=PRD(55):IF PR=1:20:GOTO 70
610 PR=PRD(56):IF PR=1:20:GOTO 70
620 PR=PRD(57):IF PR=1:20:GOTO 70
630 PR=PRD(58):IF PR=1:20:GOTO 70
640 PR=PRD(59):IF PR=1:20:GOTO 70
650 PR=PRD(60):IF PR=1:20:GOTO 70
660 PR=PRD(61):IF PR=1:20:GOTO 70
670 PR=PRD(62):IF PR=1:20:GOTO 70
680 PR=PRD(63):IF PR=1:20:GOTO 70
690 PR=PRD(64):IF PR=1:20:GOTO 70
700 PR=PRD(65):IF PR=1:20:GOTO 70
710 PR=PRD(66):IF PR=1:20:GOTO 70
720 PR=PRD(67):IF PR=1:20:GOTO 70
730 PR=PRD(68):IF PR=1:20:GOTO 70
740 PR=PRD(69):IF PR=1:20:GOTO 70
750 PR=PRD(70):IF PR=1:20:GOTO 70
760 PR=PRD(71):IF PR=1:20:GOTO 70
770 PR=PRD(72):IF PR=1:20:GOTO 70
780 PR=PRD(73):IF PR=1:20:GOTO 70
790 PR=PRD(74):IF PR=1:20:GOTO 70
800 PR=PRD(75):IF PR=1:20:GOTO 70
810 PR=PRD(76):IF PR=1:20:GOTO 70
820 PR=PRD(77):IF PR=1:20:GOTO 70
830 PR=PRD(78):IF PR=1:20:GOTO 70
840 PR=PRD(79):IF PR=1:20:GOTO 70
850 PR=PRD(80):IF PR=1:20:GOTO 70
860 PR=PRD(81):IF PR=1:20:GOTO 70
870 PR=PRD(82):IF PR=1:20:GOTO 70
880 PR=PRD(83):IF PR=1:20:GOTO 70
890 PR=PRD(84):IF PR=1:20:GOTO 70
900 PR=PRD(85):IF PR=1:20:GOTO 70
910 PR=PRD(86):IF PR=1:20:GOTO 70
920 PR=PRD(87):IF PR=1:20:GOTO 70
930 PR=PRD(88):IF PR=1:20:GOTO 70
940 PR=PRD(89):IF PR=1:20:GOTO 70
950 PR=PRD(90):IF PR=1:20:GOTO 70
960 PR=PRD(91):IF PR=1:20:GOTO 70
970 PR=PRD(92):IF PR=1:20:GOTO 70
980 PR=PRD(93):IF PR=1:20:GOTO 70
990 PR=PRD(94):IF PR=1:20:GOTO 70
1000 PR=PRD(95):IF PR=1:20:GOTO 70

```

```

220 IF=0:GOTO 57:TL=200:RNDM=7:RNDM=3:RNDM=
240 PR=PRD(46):IF PR=1:20:GOTO 70
250 PR=PRD(47):IF PR=1:20:GOTO 70
260 PR=PRD(48):IF PR=1:20:GOTO 70
270 PR=PRD(49):IF PR=1:20:GOTO 70
280 PR=PRD(50):IF PR=1:20:GOTO 70
290 PR=PRD(51):IF PR=1:20:GOTO 70
300 PR=PRD(52):IF PR=1:20:GOTO 70
310 PR=PRD(53):IF PR=1:20:GOTO 70
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560 PR=PRD(78):IF PR=1:20:GOTO 70
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590 PR=PRD(81):IF PR=1:20:GOTO 70
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950 PR=PRD(117):IF PR=1:20:GOTO 70
960 PR=PRD(118):IF PR=1:20:GOTO 70
970 PR=PRD(119):IF PR=1:20:GOTO 70
980 PR=PRD(120):IF PR=1:20:GOTO 70
990 PR=PRD(121):IF PR=1:20:GOTO 70
1000 PR=PRD(122):IF PR=1:20:GOTO 70

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Continued from page 16

LEST The other well-known difference between 52 and 64 Basic is the bug with the USR call which on the 52 provided all calls to be two digit only USR01 or USR02. This has been fixed on the 64 which means some Basic games require modification before they are compatible. The major difference between the 52 and 64 is the availability of the full 64K of RAM. When you switch on your 64 you will find it identical to a 52 other than the above-mentioned minor changes. If you type PRINT A\$C you will get the same answer as on a 52.

Now type BASIC 64 on a cassette or other disk drive routine which switches it into disk ram mode and copies the recompiled 64 Basic rom installed above into the area normally reserved for the cartridge slot. PRINT MEMLOC; and you will see 256K. If you want even more you can FORK 256K. If you delete all the programs on your disk you will have the 64K system. Although the Basic interpreter now retains a size of 64K each program can be compiled (or stored) by suitable FORKing if desired.

As 64 is not a PLEK yet the 64K ram facility of the Dragon 64 to replace the standard operating system. Many other utilities have been produced to utilize the extra memory available. BASIC42 by Horst Weller Soft was modified the existing Basic to use and utilize many additional features. One advantage of the 64 that is not often mentioned is the fact that many cartridge based programs can be saved to tape or disk and then reloaded (with the aid of a variable bit utility) into the original location without the necessity of a cassette. See other articles in this magazine.

For more information on operating systems visit

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More to follow!

Communications

Write down your problems or the major bugs which 4.2 is intended to solve as far as possible together with your name and address and send it to Communications, 45 Abchurch Lane, London EC4N 3DF.

Prisoner

Name

Address

Display Switcher

Ken Smith shows a cheap hardware screen inverter

RETAILERS would not know how far some time designers have been considering about the poor display they get when they connect their business machines to a monochrome monitor. When you purchase a monitor I found the disappointment was wholly justified. You buy a monitor to improve the display, but when you get it can scarcely worse than with a black and white monitor. I have mentioned before in these pages that some software (Dress-IT for instance) which simulates a white screen gives a 20% better display. However, most programs which require a good display such as word processors give a black or green display which is fatiguing and barely readable. I am sure that the power supply magnifies the poor picture quality. One reader did suggest that the Diagonix monitor output rather colour only and this combined with my own experience led me thinking.

Not being an electronics expert I was looking for a software fix. I tried changing my printer system to black and was working with very little success. During the search it was suggested that I might be better off trying to do the job with hardware. What follows is the result of my investigations.

Two cures

There are two ways of curing this problem both of which involve changing the colour.

The first cure is to remove the top mark on the 8088 which is the unit that controls the colour output. On some machines this is a plug in strip that can be easily removed without problem. However, another it is soldered in and unless you are capable with the soldering iron, it is best not attempting. My machine falls into the latter category and therefore a decision was made what to do, as I abandoned it.

The second option is to switch off the colour crystal. This can be done relatively easily and can be made switchable. This second option seemed to have promise and after months of thinking about it (my soldering is rusty) it was the course I embarked on. The materials required are listed below: total cost is about £1.500 and the job takes about fifteen minutes. The materials required are one monochrome single pole toggle switch, one 0.1 micro farad capacitor of any voltage over 50V and half a metre of 0.8mm insulated stranded copper wire.

Switch

The first task is to find a suitable size for your switch and drill a clean hole to mount it. I chose a position just under the left side

of the keyboard, making it possible to switch from colour to monochrome by just pushing in on the key.

Next, solder one of the capacitor leads to one of the switch terminals. Locate the crystal (this is a small metal can and is usually marked 44228844) or something similar. Strip and tin one end of the wire

The second option is to switch off the colour crystal. This can be made switchable. After months of thinking about it (my soldering is lousy) this was the course I embarked on.

I then solder this to one of the crystal leads. Run this wire across the switch and cut it as short as is practical.

Strip and tin the end of the wire, then solder it to the vacant terminal on the switch.

Strip and tin one end of the remaining wire and solder it to the other end of the colour crystal.

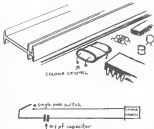
Run this wire to the free end of the capacitor. Again cut the wire as short as practical. Strip and tin the end, then solder it to the free end of the capacitor.

Caution: do not touch the wire (don't use an electrolytic capacitor). These have to be connected for the correct polarity or they go pop, don't use too small cables which make a capacitor on its own so that the switch will be useless. On some machines the wire around the crystal may be soldered straight through to avoid being soldered from the machine and attach the wires to the underside of the panel where the crystal is soldered into the board. Finally don't forget to plug everything back the soldering iron before you start. All that now remains is to play mindswitch on.

Even TV

The real benefit to users of character printers (both on text and Hi Res systems) and being switchable it will not affect the programs that require colour. In fact the display is PROSE-A is so much improved it would even be worthwhile for those using colour televisions.

My thanks go to Ted Becerra who provided the information and to Les Galt who performed the micro-surgery on my 8088 on the subject. The funny thing is that Ted told me it was common knowledge to why some terminals are still in the dark? Perhaps someone else has some secret tips I may could learn.



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Crossword

Please get your answers in to Dragon User Crossword Department by Dragon User, the end of the month on the front cover.

The month's Dragon Crossword consists of a set of four in the morning that is, as the solution will explain and comes a bottle of warming milk in the doorman. There is a message-packed letter bottle. It is from Gordon Wright of Dundee. The editor's first adventure I have ever solved says he. Do you have photo Meter in your Motherless Box? Or Cheese Egg? I can't hear anything Gordon. Mewler from Thomas of Cheshirefield was Foster for Arthur. What a local game! Best. We will return to see can do.

The phrase is **TEXT ADVENTURE**

There will be a couple of free tapes on the Editor's Magic 800000000 for the first correct entries out of the hat each month. You can try telling us which tapes you'd like – you never know, we may have them.

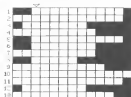
And you do! I have to cut up your Dragon User – entrance a processor a piece in the computer while as long as we can read them.

- 1 Baby talk – what is the sign for soldiers? (7 3)
- 2 Ma says 'poh-eh' who should be not as quiet? (8 4)
- 3 and 4: Pomus One names to Tanager? (7 5 4)
- 4 see 3
- 5 and 6: Toy model finds in a space for signage distribution (11 3)
- 6 Don't stop! balloons are also one difference? (7)
- 7 Keep calm! You cannot stop this totally enough (4 5)
- 8 see 5
- 9 For the game, put your money on the team! (10)
- 10 A cool and also own the company – there's a dirty work floor (5 8)
- 11 Perfect sign about future reference craft (5 7)
- 12 Blanks like eternal space could lead to highest peak (7)
- 13 After the hat again – so change to same – ridiculous! (11)



by Terry and Derek Prange

All this month's answers are names of Dragon software. When the crossword is complete, the column marked with an arrow will spell out a phrase.



Write: ADVENTURE

Pete Gerrard cracks down on adventure utilities

Following on from last month's article, I read several (or rather magazine and/or another computer) but the point remains (in some of) an adventure writing utility. The goal being made in the review was that with the aid of such utility it is possible for the writer to create a standard to match any commercial software currently on the market. Well, this being a family magazine I am prevented from using the word that I would like, but spherical objects come fairly close. A great myth seems to have been put up about such utilities, and although some people can be written with them, so many people have proved what usually happens is that a flood of mediocre games is released instead. Indeed, if we lost count of the number of episodes of *The Hobbit* or *Cosmos* Cave that I've seen and never wish to see another one.

The only viewpoint in favour of any utility that I possess on any computer is that you don't have to produce your own routines like SAVE and LOAD. They're built in for you. GET ALL and DROP ALL are usually catered for as are RAMGAMES and RAMLOADS. Graphics too are handled more often than not, although you do still gotta draw things in the first place, and if you're an artist like me then you get to receive due to do them for you. The final great advantage is that the game is already coded (and), and if it's a sensible utility then it will be able to handle that which was covered in the very first article on writing adventures for your Dragon, sentences like OPEN THE RED CABINET AND LOOK INSIDE IT, although it could cope with OPEN RED and LOOK IN it would probably do just as well.

Cut it out

A little bit here, while playing adventures rather than writing them. A friend of mine was playing a particular game, and wanted a coupon out of a newspaper using some scissors. However, if the adventure in question could only handle a VIBRIB.

NOUR format, so CUT COUPON OUT WITH SCISSORS was clearly out of the question in cases like that, and I had followed an interesting procedure. Write it in sentences out that you want to type or even though you know it will be accepted by the adventure. Then by every possible way avoid complications until you find one that works. In this instance, I don't think anyone would have come up with the right and unless they had followed just such a procedure. Well, would you have thought of CUT OUT if I hadn't pointed you in the right direction? It's a good rule to follow when playing adventures that are restricted to VIBRIB, NOUR. But I suppose as usual, to look to administer writing utilities and their claims to fame.

One of the drawbacks seems to be that you don't have to learn a program to use them. Granted, I've been converting a game recently off and on (that was written in just such a utility and trying to get it to run in good old Basic. Well, instructions like:

if verb= "help" then #message 200 wait

I can just about cope with it, if the verb typed in is a quoted "verb" then print a line level print message number 200, then wait for another input from the player. I have a damn good way of printing out messages, so I could easily convert the above into something like:

if vb="H" then print mes=200 goto 2100 goto 10



Here we're just looking for a verb number rather than a specific verb, so we use the Basic keyword PRINT instead of if, and use a subroutine (goto) but it's message rather than the utility itself. I really go to low 10 instead of using the word "wait" to wait for another input. The sort of thing is fairly straightforward and versatile on a term used throughout the game in question. Other commands could be introduced, well be implemented as well.

if verb= "1" and not verb="wait" with then # message 1000 loc with message 210 wait

As with printing messages I have standard routines for doing simple story and all that the above is saying is that if the player is carrying at least one object then print message number 1000 and use all the objects being carried. Later on there would be another line for handling an inventory request if nothing was being carried. But if you just look at it like for the one above, as if any word that requires a great pinch of salt when I read it myself, you don't need

to know how to program. ↑ Good grief, it's almost as complicated as learning machine code! Well, almost.

But to get on, look outside from the game program, what can it do? Well, you expect to do with a command like the

if loc=0 with then repeat # message 1000 # # # then # # # with message 1001 pause 20 wait 2000? Well so what.

That sort of thing is just ridiculous, but a really bit taken from an adventure game written with a utility and I have typed it out, early as it is shown as the being what is currently in my left as I write. No non-programmer is going to get to grips with commands of that complexity at least not straightaway, so the whole point of the thing, do not necessarily be reduced by adventures for which written for you, if you don't need to learn to program. Read that above command line again and ponder on the wisdom of such a statement.

A good routine

But like as not to knock utilities altogether, if you don't program and want to use one of the routines covered for an adventure game already written for you then they're always well going for them. For a while if you are approaching a computer for the first time, and if you're a person who no longer approach (Dragon) then read this month's Adventure. This is the first year old into a doing just that.

In the last of COG (Computers Other than Dragon) especially the new range of 16 bit machines, I doubt whether any one person could ever get sufficiently to grips with the machines to be able to write efficient adventures and. In such a case it's a specific adventure writing utility exists then you might as well use it and save months and months of it time learning how the machine works. Take a few weeks to learn how the utility works, instead and spend the rest of your previous time developing and writing the game. That's what I'm doing! The problem here, and the applies to Basic adventures on Dragon as much as it does to utility ones on anything else is to make the game different and to stand out from the crowd. A good utility allows you to use time better than that of a utility, not a good adventure writer on the Dragon depends on the fact that he will use the Dragon and not of a game in Basic. The problem remains the same.

Copy cats

Which brings us nicely to the remainder of this article and a little chat about disgusting adventures.

Demerol good! We shall return to Jim in six months when his passed under the bridge. Or something like that!

B) Don't take back from Draco and go to Nightfall Island to cure and discover that very same like back Old Tooth of skulls and later I took to the Oracle.

T) Take some black orb and multiply eye to the relevant Place of Mystic Clouds (should be something out of the Flighter Pader — go to the room of many copies and from you will find seventy three thousand two-hundred-fifty which have to be assembled into a working model of a high-tech number switch (no telephone). Where was I? Oh yes, take all that to the Place of Many Queens and you'll get a little more for your trouble!

E) Get to the side of magic given from the green stone and take it to King Copal who appears to be getting an awful lot of goodness in the game.

B) When you have the six units (that) take them to the time chamber and send them. This will get you a Time Ring.

Small and blue

All well and good but what is it with this ring? What does it do with the time ring. How does it pull it up why can't it get past it up when the part? These and many other questions are also asked by one Keith Parousos of Haverhill in the Sheffield who continued to proffer sound reasoning that I've read since. About five months by those (I must have missed) and returned a lovely letter of love. What can it all mean? With an address for Haverhill maybe he ought to be able to take the side of the game to pieces and find out that way that perhaps not. Don't take your mind, apparently only the ring, because take the ring which brings us back to the advertisement Jim Finley of Haverhill.

No, he's not a ring bearer and is not involved with completion of the game. He probably would be in the past game anyway. However, he is writing about the same game as our friend Mike, namely *Nature of the Ring*. So let's take a look at what he has to say.



Here start! — The advertising letter you received bearing a line clearly pointing to the Dragon (Who? Who's he trying to kill? He's probably 20 years old). As last, another who doesn't claim to be 5 years old and so have solved his last adventure before he was five. Apparently I read Jim's "Inexplicably" story and had waited until now to write in the hope that someone else had done all the work anyway! I too live in a dream world of letters, especially in the Monday evenings when you can't see computer on and, well, stare at a video tape that I will do something. You all there and then, come on you do something for a change if it always materializes from all the typing you do for me. I really love. Anyway, back to Jim's letter and his own discussion on *Nature of the Ring*.

On your own

Leaving the time and heading north-eastward will bring you to the castle. From there our north will bring you to the time chamber where you need to deposit six units. From there you're on your own because I've only found one so far (I think I read — PG). If you leave the Stone ring and take the other five is the simplest you can make three of them for maximum strength (discuss and intelligence only don't have things work in real life). The fourth you can carry into the room forest where as you will ring use (I haven't been and you will avoid falling down traps).

Goodies are lying in bottles and that you give you a little cause to be taken in to get the and then to something like a drink will do. You never get a fish?

Ask the Princess. Drop the fish in the pond and go out. There are books to be a happy released game and a bag on the floor. The book is a helpful instruction sheet!

To get rid of the Ring (which can, for that you will need a spell of enchantment or evocation if you're Nick Hooge — PG) — I just continue than believe in Jim's letter as the last remember about the spell of banishment is so well they don't that all and very on later. I've a coin that the holder of the things of Paganism. However, all that you can gain there is the restoration of lost text so if you haven't lost any nothing will happen. There we reach the end of the Ring on return of the Ring. But Jim don't go on to tell me that some beautiful ring which could be learned has published a cheat for the game which gives you "unlimited grimoire" and everything. Why anyone should wish to take all the interest and time of someone out of the game (as I imagine) says Jim and that's why agree. Hello, yes, goodbye!



over, but if adventures go the way of so many games, and pages, and pages are paid in the way of getting some advice, then we'll be a sorry state indeed. Free for another game, I defend The Paper to the full, but not for adventures.

A quote to finish with. A chap called Rob Brown, from Middlesex, had a problem with the "Water Factor" but fails to actually state what the problem is. He has all the cartridges, has got good the "Cave" and the good nuclear accident for, and then has ground to bed. Well, without knowing what the problem is, not even the mighty column can give you a solution. We need more details! Bye for now.

Adventure Contact

To help yourself, adventure further, we're introducing Adventure Help! — simply fill in the coupon below, listing the name of the adventure, your problem, and your name and address, and send it to Dragon User Adventure Help, c/o Adventure Front, Mountain Meads, TRO, ENP. As soon as enough letters have arrived, we'll start answering them in magazines.

Don't worry — you'll still have Adventure! That's what we're here for!

Adventure _____
Problem _____
Name _____
Address _____

A little number

Gordon Lee finds that slicing up pi is not simply a piece of cake

INVESTIGATIONS into the transcendental number pi revolved along and checked out history a period of some five thousand years since it was first related that there were more to that enigmatic number than meets the eye. It was a simplification of a certain circumference to its diameter. However, nothing is simple when it comes to evaluating this number. The term, transcendental, gives a clue to its intriguing nature: that is, it has a decimal value which extends to infinity without ceasing.

or repeating. Its true value has now been computed to over one million decimal places (although I believe he was probably not for such a task).

For most purposes a value of pi to seven decimal places is more than adequate, but if you require a greater degree of accuracy here is pi to 26 decimal places:

3.14159 26535 89793 23846 26433 83279 50288

The problem is, of course, remembering such a sequence and over the years a number of mnemonics have been developed to remember an arbitrary number of digits in each word corresponds to the digits in pi. How I hope I write lightly to Dagon's ears, his side table problems are playfully (perhaps) complicated, would be one such mnemonic. OK, it is created and by putting two words together near the end, A much better attempt was written by Adam C. Gil of Chicago in 1908:

Now I even I would celebrate
in rhyme except the great
Immortal Syracuse invited nevermore,
Who in his words became
Reverend before
Left men his guidance
How to recite pi memorably

Note the American spelling of "invited" to attain a 17 for this page. The "Invited"



PERIMETERS of INSCRIBED and CIRCUMSCRIBED POLYGONS

n	Length of side (Internal)	Length of side (External)	Perimeter (Internal)	Perimeter (External)
3	0.8660254038	1.154700538	2.598076211	3.464101614
6	0.5	0.5773502692	3	3.215390309
12	0.2598224045	0.2630794995	3.10583854	3.158655943
24	0.1305261932	0.1310689256	3.122828613	3.148086213
48	0.06540312921	0.0654732208	3.139350202	3.142714554
96	0.03271908282	0.03272784426	3.141031195	3.141873049
192	0.01636173162	0.01636282681	3.141452472	3.141662747
384	0.008181139603	0.008181276499	3.141557407	3.141620175
768	0.004090584024	0.004090621137	3.141593491	3.141597033
1536	0.002045294392	0.002045330443	3.141592462	3.141592748
3072	0.001022647168	0.001022650948	3.141592655	3.141592926
6144	0.0005113236907	0.0005113269405	3.141592654	3.141592721

Price

The price is some full price. Can it be that low of your age? Not quite. But looking ahead. Dragon's Services are offering an (see early issue) to the Colour Care (see Current Contents/Winter super Main) in November. See Newsletter for further details. These services allow that they can't make the show can get to take their chances with the Editor's stage. But unless you. A piece of pi.

Rules

When you have calculated the Grand Unknown and/or other best and/or place you want from, put your conclusions, your feelings and the famous calculator etc. on a separate marked SEPTEMBER COMPLETION and email it to:

Ad. for the Publisher, perhaps you

should all these a reference to give no less than seven lines of text, including at least one about "Great" (but do I will spare you. I'll get out some time ago so poetry can't have been good for his. Instead think of yet another way of the spelling of someone's name such as a word or phrase to help you remember something. How (and which) puzzle were judging this month?

June winners

Lots of entries to the camp for, all a high proportion of right answers. The problem (the provided message) though, was about how to find that. The 1998 winners:

C. Mark-John of Middleborough D J Gray of Middleborough J D Harty of Chelmsford, DR (through of Marjorie), T H Davis of South Norwood, Ronald D

Waters of Walsal R M Cashmore of Market Harborough, Alan Henderson of Bromsgrove, John B Black of Weybridge and P J Taylor of Middleborough. All these will receive copies of Five Games, Spectrum Precision Software who, incidentally have some good new games on the market.

We had some excellent, practical suggestions for promoting the Dragon, including car stickers, local contest points and bounty for readers introducing new subscribers. The most enthusiastic was Austin Henderson. Get someone to back into the national newspaper categories and create an automatic full page ad, without anyone noticing.

Solution

See opposite

Archimedes referred to it in the 3rd century AD. The Greek mathematician used a square and Archimedes' idea was used thereafter to attempt to calculate the value of pi. The method that he used involved the calculation of the perimeter of regular polygons both inscribed and circumscribed about a circle of diameter 1 unit. In **Figure one** the lengths of each side of the inscribed triangle can be easily calculated using an extension of Pythagoras' theorem. As the circle has a diameter of 1 unit its circumference will have the value pi, and consequently the perimeter of the triangle will give a (very) rough approximation to this value. By doubling the sides of the polygon, each successive calculation in the series will give a closer and closer approximation to the required value. At a similar point of calculation as performed (but using circumscribed polygons) then the true value of pi will become evident between each pair of values. The problem of using such a method lies in the calculation of a series of square roots, each successive doubling of the number of sides of the polygon involves a more intricate and lengthy root to be evaluated. The table **Figure two** shows the results of such an operation on polygons with sides in the doubling series of 3, 6, 12, 24, 48, 96, 192, 384, 768, 1536, 3072, 6144, Archimedes calculated as far as a 96-sided polygon, but in the table the values have been extended a little further.

How has it all done? Archimedes was the first to give the approximate value of 22/7 for pi, a figure that is still used today when only a rough comparison is required. Three thousand years before Archimedes the Babylonians were using three and one eighth as their constant,

whereas Egypt 1600 BC (the area of a circle was calculated as being the square of 8/9ths of its diameter) Chong Ching (79-106) believed pi to be equal to the square root of 10 while Aryabhata (476-550) gives the remarkably accurate 3.1416. At about the same time the Chinese engineer Tsu Ching Chi derived the amazing fraction 355/113. This provides an accuracy of pi to six decimal places, accurate enough to compute the circumference of the earth given its radius to within eleven feet!

More recently the Indian State Legislature considered a bill in 1907 in regard to its being a value of 3.2 exactly. The bill was defeated. On a more practical note, mathematicians have frequently devised rational approximations to pi, but few have been able to exceed the Tsu Ching Chi fraction for accuracy, and this value is probably the most useful for everyday calculations in **Figure three** the table

shows some of these approximations, the accuracy of each has been checked by using each value to compute the circumference of the earth. The difference from the true value is shown in the right-hand column. The best value in the table remains constant as far as the basic of the month comparison in 1914 the Indian mathematician Srinivasa Ramanujan devised a rational approximation which gives pi to an even greater accuracy. Using the first already described (his approximation will calculate the circumference of the earth) will be one such example, but the earth has a radius of 3960 miles, and therefore a circumference of 2*pi*3960. The approximation for Ramanujan found is given as the square root of the square root of the value indicated in the brackets (7). This value is what you have to raise as a fraction, and I use the number for both the numerator and the denominator. What are the simplest numbers which will do it?

Approximation	Decimal value	Accuracy
Rational	3	-162 miles
John Lambert	355/113	+626 miles
Indian State Legislature	22/7	+483 miles
Chong Ching	sqrt(10)	+184 miles
Egyptian	area = (84/9)^2	+150 miles
Babylonian	3 1/8	121 miles
John Lambert	(3055)^2	28 miles
Archimedes	22/7	+18 miles
Aryabhata	3.1416	+207 feet
Tsu Ching Chi	355/113	+11 feet
Srinivasa Ramanujan	(174)	<1 inch

This is Gordon Lee's new solution to the June competition see page 28 for results.

The Answer

Puzzle one

ANSWER: The smallest number which happens to be a maximum success of one million is 1019. This starting value that has a maximum of 1279536, the whole sequence being 57, 49, 16 to reduce to 1.

Linking one runs the first six cell numbers from 1 upwards, each line contributing the path length (P) and the maximum value reached (M). As each line is completed the results are printed out. This is continued until the maximum printed at line 180 becomes one million.

In the program, note that it is only necessary to include a new maximum after an odd number has appeared, the value to be swapped (lines 168 and 169).

Puzzle two

ANSWER: The quotation was "The only competition worth a vote that is not honest" (Mrs Anna Jackson 1794 1800). The code used was substitution code using a key to denote the substitution in regard to each letter. Clearly the phrase given will unlikely to have been at a simple substitution code as, in the case of these letter sequences EEF would be double a word of three letters, the first two being the same. All keys will likely be one of a key is indicated.

The key is in fact the words Dragon Star used repeatedly throughout the message. Each letter in the quotation was advanced by the number of letters in

defined by its corresponding key letter D = 4, G = 7, etc. The result of this operation

THE ONLY COMPETITION WORTH A VOTE GAINS WITH HIMSELF
 DRAGON STAR SCORAGONHUS SCORAG
 O DRUG BDR AG DRUG SCORAG
 RDR MCF VTE TRHUSRUS BWRUP P
 RDR MCF VTE LARA MDRPDR

So T plus D (4) will give N, and so on. To decipher it gives that you know the method to verify the process is reversed. This is done using **Linking two**, which uses the ABC values of the letters as values for the substitution. (The 180 ensures that all 26 letters (uppercase punctuation marks etc.) are left unchanged)

Linking 1

```

100 START=1
110 MAX=1000
120 P=0:Q=0
130 IF M<1 THEN GOTO 140
140 IF M<=P THEN GOTO 150
150 IF M<=Q THEN GOTO 160
160 P=P+M:Q=Q+M
170 IF P=1000000 THEN GOTO 180
180 PRINT P:PRINT Q
190 START=START+1:GOTO 130

```

Linking 2

```

100 DR="DRAGONHUS"
110 PR="127 512 516 518 519 520 521 522"
120 P=127:Q=LARA MDRPDR
130 DR="( , )"
140 FOR I=1 TO 26:PRINT
150 PRINT DR+CHR(I)+"; "
160 IF I/26=1 THEN PRINT
170 FOR J=1 TO 26:PRINT
180 PRINT DR+CHR(J)+"; "
190 IF J/26=1 THEN PRINT
200 DR=DR+CHR(I)
210 NEXT I
220 PRINT DR:PRINT Q

```

Dragon Answers

If you've got a technical question write to Brian Coogan. Please do not send a SAC or Binary code questions or answer individual inquiries.

Double your notes

How do you get 64 and Macintosh Computers to print the contents of their floppy disks? Using the Disk II or the floppy to do this is a tedious, longer, less-desirable, and irritating. The DOS uses Macintosh files and macrocopying?

Jason D. Moore
66 West Green Lane
Irvine, CA 92714
Algot
Lancet PMS-SAN

MS-DOS files use either Compress files program or use the disk's own flag bit and data are stored as if the compression ratios are allowed by default. The main issue starts at address 0000 and the compressed areas immediately after that of 0000 which gives space for 128 bytes (instead of normally being set to 0000).

One thing to do is to use either an extra 128 or 256 bytes. But remember that the sector is set to an 0000 segment of the end of the program so it will be necessary to save the main file and add whatever is left up to memory (this is easy as the sector is normally built in to a 256 byte boundary). Adjusting the CLM (compression ratio) will allow the extra 256 bytes to be used.

By experimenting with different settings you should find that you can get almost twice as many notes in memory with the extra 128.

Sort it out

Is there any program that can sort a list of what has to be put out about 100 items? I'm not sure if it's a database or a simple list. I'm using the traditional technique of manually. The program will be able to sort the list in the order of the number of items up and down. I'll be able to sort it out after pressing F5 and then pressing the party card list. I'll be able to sort it out in the order of items up and down.

Can you sort a list of items up and down? I'll be able to sort it out in the order of items up and down.

John Smeeth
54 Kings Drive
Fairport
Proctor
Lancet PMS-SAN



When working with the computer, it is often to be in the year 2000. The computer is usually to be in a single collection of data. This is often because the computer is usually to be in a single collection of data. This is often because the computer is usually to be in a single collection of data. This is often because the computer is usually to be in a single collection of data.

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Get Read Beta

```
FORG (HPP7, (PERR(HPP67)AND(HPP6)) OR 0
```

Where H is from 1 to 15 representing the value: 50, 75, 100, 125, 150, 200, 400, 1200, 1800, 2400, 3600, 4800, 7200, 9600.

Send a CHECKSUM

```
LD IF PERR(HPP65)AND16=0 THEN LD  
LD PERR: 487704,CH
```

What for a CHECKSUM

```
LD IF PERR(HPP65)AND8=0 THEN LD  
LD CH:PERR:487704)
```

The main issue starts at address 0000 and the compressed areas immediately after that of 0000 which gives space for 128 bytes (instead of normally being set to 0000).

Inside-out

MS-DOS files use either Compress files program or use the disk's own flag bit and data are stored as if the compression ratios are allowed by default. The main issue starts at address 0000 and the compressed areas immediately after that of 0000 which gives space for 128 bytes (instead of normally being set to 0000).

600-5000000000000000

Although sometimes the program works OK, I was wondering if you could tell me why this happened as I am very confused.

Michael McCullough
120 Craycroft Road
Jeffersville, MO 64484

THE ANSWERS are not always as simple as you think. I'll be able to sort it out in the order of items up and down.

negative number is often possible to sort the square root of any number. The only way to do this is to use the square root of any number. The only way to do this is to use the square root of any number. The only way to do this is to use the square root of any number.

As a rule, it is often to be in the year 2000. The computer is usually to be in a single collection of data. This is often because the computer is usually to be in a single collection of data.

600-5000000000000000
600-5000000000000000

Dumb ascii

MS-DOS files use either Compress files program or use the disk's own flag bit and data are stored as if the compression ratios are allowed by default. The main issue starts at address 0000 and the compressed areas immediately after that of 0000 which gives space for 128 bytes (instead of normally being set to 0000).

F. H. H. H.
P.O. Box 601250
San Jose, CA 95160
South Africa

The main issue starts at address 0000 and the compressed areas immediately after that of 0000 which gives space for 128 bytes (instead of normally being set to 0000).

```
0070 LDA 00707  
ANDA 0070  
ORA 00000  
STA 00707  
0070
```

```
0080 LDA 00703  
ANDA 0070  
BCD 00000  
LDA 00704  
STA 00704  
0070
```

```
WAIT LDA 00705  
ANDA 0070  
BCD WAIT  
LDA 00704  
0070
```